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New Patent Claims

1. A detergent or cleaning agent, characterized in
5 that it comprises an amylolytic hybrid protein whose
amino acid sequence comprises in each case in a
homologous position at least one partial sequence
encompassing more than one amino acid, which partial
sequence is identical to that of *Bacillus*
10 *amyloliquefaciens* α -amylase, and comprises in each case
in a homologous position at least one partial sequence
encompassing more than one amino acid, this partial
sequence being identical to that of *Bacillus*
licheniformis α -amylase, with the points of fusion of
15 the hybrid amylase being located at one or more of
positions 17, 34, 76, 108, 112, 142, 147, 149, 151,
163, 174, 179, 185, 191, 198, 207, 231, 234, 244, 256,
263, 276, 431, 84, 99, 429, 201, 19, 433 and 153
according to the numbering of SEQ ID No. 4.

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2. The agent as claimed in claim 1, characterized in
that it comprises any of the hybrid amylases AL17,
AL108, AL142, AL147, AL149, AL151, AL163, AL174, AL179,
AL185, AL191, AL198, AL207, AL231, AL234, AL244, AL263,
25 AL276, AL431, ALA17-151, ALA76-151, ALA99-429,
ALA112-151, ALA112-201, LA19 and/or LA431.

3. The agent as claimed in claim 1, characterized in
that it comprises any of the hybrid amylases AL34 (SEQ
30 ID No. 6), AL256 (SEQ ID No. 12), ALA34-84 (SEQ ID
No. 14) and/or LAL19-153 (SEQ ID No. 18).

4. The agent as claimed in claim 1, characterized in
that the hybrid proteins are those which are at least
35 98%, preferably 99%, particularly preferably 100%,
identical to that of AL76 (SEQ ID No. 8).

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5. The agent as claimed in claim 1, characterized in that the hybrid proteins are those which are at least 98%, preferably 99%, particularly preferably 100%, identical to that of AL112 (SEQ ID No. 10).

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6. The agent as claimed in claim 1, characterized in that the hybrid proteins are those which are at least 98%, preferably 99%, particularly preferably 100%, identical to that of LAL19-433 (SEQ ID No. 16).

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7. A detergent or cleaning agent, characterized in that it comprises a hybrid amylase as claimed in any of claims 1 to 6, obtained by deletion of in each case no more than 5 contiguous amino acids, preferably of in each case no more than 3 contiguous amino acids, particularly preferably of in each case only one amino acid, or by substitution of an amino acid.

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8. A detergent or cleaning agent, characterized in that it comprises an amylolytic protein obtained by insertion mutation or an amylolytic chimeric protein which is identical at least in one part of a hybrid amylase as claimed in any of claims 1 to 7, which part confers amylolytic activity.

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9. A detergent or cleaning agent, characterized in that it comprises an amylolytic derivative of a hybrid amylase as claimed in any of claims 1 to 8.

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10. The agent as claimed in any of claims 1 to 9, characterized in that it comprises from 0.000001 percent by weight to 5% by weight, in particular from 0.00001 to 3% by weight, of the amylolytic protein or derivative.

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11. The agent as claimed in any of claims 1 to 10, characterized in that it additionally comprises one or

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more other amylolytic proteins, in particular α -amylases.

12. The agent as claimed in any of claims 1 to 11,
5 characterized in that it additionally comprises other enzymes, in particular one or more proteases, lipases, β -glucanases and/or cellulases.

13. The agent as claimed in any of claims 1 to 12,
10 characterized in that it comprises more than one phase.

14. The agent as claimed in any of claims 1 to 13,
characterized in that it is solid and that at least two different solid components, in particular powders,
15 granules or extrudates, are present in an overall loose mixture.

15. The agent as claimed in any of claims 1 to 14,
characterized in that at least two solid phases bonded
20 together are present, in particular after a joint compacting step.

16. The agent as claimed in any of claims 13 to 15,
characterized in that at least one of the phases
25 comprises an amylase-sensitive material, in particular starch, or is, at least partly, surrounded by or coated with said material.

17. The agent as claimed in any of claims 1 to 13,
30 characterized in that it is overall in liquid, gel or paste form and that the protein present and/or at least one of the enzymes present and/or at least one of the other components present is, either individually or together with other components, in encapsulated form,
35 preferably in microcapsules, particularly preferably in those made of an amylase-sensitive material.

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18. The agent as claimed in any of claims 1 to 17,
characterized in that any of the other components of
the agent modifies, in particular stabilizes, the
amylolytic activity and/or increases the contribution
5 thereof to the washing or cleaning performance of the
agent.

19. A method for cleaning textiles or hard surfaces,
characterized in that in at least one of the method
10 steps an amylolytic protein or derivative as claimed in
any of claims 1 to 9 becomes active.

20. A method for cleaning textiles or hard surfaces,
characterized in that in at least one of the method
15 steps an agent as claimed in any of claims 1 to 18 is
used.

21. The method as claimed in claim 19 or 20,
characterized in that the amylolytic protein or
20 derivative is used in the method step in question in an
amount of from 0.01 mg to 400 mg, preferably from
0.02 mg to 200 mg, particularly preferably from 0.02 to
100 mg, per application.

22. The use of an amylolytic protein or derivative as
25 claimed in any of claims 1 to 9 alone or together with
at least one other cleaning-active ingredient or active
ingredient supporting the cleaning action for cleaning
textiles or hard surfaces.

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23. The use of an agent as claimed in any of claims 1
to 18 for cleaning textiles or hard surfaces.

24. The use as claimed in claim 22 or 23,
35 characterized in that per application, preferably per
application in a dishwasher or a washing machine,
0.01 mg to 400 mg, preferably from 0.02 mg to 200 mg,

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particularly preferably from 0.02 to 100 mg, of the
amylolytic protein or derivative are used.

25. The use of an amylolytic protein or derivative as
5 claimed in any of claims 1 to 9 alone or together with
at least one other cleaning-active ingredient or active
ingredient supporting the cleaning action in a
detergent or cleaning agent comprising more than one
phase for activating its own or other phases.

10 26. The use of an amylolytic protein or derivative as
claimed in any of claims 1 to 9 alone or together with
at least one other cleaning-active ingredient or active
ingredient supporting the cleaning action in a
15 detergent or cleaning agent containing encapsulated
ingredients for releasing the ingredients from the
capsules.

20 27. A method for improving the washing or cleaning
performance of a detergent or cleaning agent,
characterized in that partial sequences of the
 α -amylases from *Bacillus amyloliquefaciens* and *Bacillus*
licheniformis, which in each case comprise at least
more than one amino acid, are fused in each case in a
25 homologous position to give an amylolytically active
hybrid amylase and that said hybrid amylase is added to
the agent, with the points of fusion of the hybrid
amylase being located at one or more of positions 17,
34, 76, 108, 112, 142, 147, 149, 151, 163, 174, 179,
30 185, 191, 198, 207, 231, 234, 244, 256, 263, 276, 431,
84, 99, 429, 201, 19, 433 and 153 according to the
numbering of SEQ ID No. 4.

35 28. The method as claimed in claim 27, characterized
in that the hybrid amylases obtained additionally
receive one or more deletions of in each case no more
than 5 contiguous amino acids, preferably of in each

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case no more than 3 contiguous amino acids,
particularly preferably of in each case only one amino
acid.

5 29. The method as claimed in claim 27 or 28,
characterized in that the hybrid amylases obtained
additionally undergo an amino acid substitution in at
least one position, increasingly preferably in the 1, 2
or 3 of positions 132, 320 and 412 according to the
10 counting of SEQ ID No. 4.

30. The method as claimed in any of claims 27 to 29,
characterized in that the hybrid amylases obtained
additionally obtain insertions or represent an
15 amylolytic chimeric protein.

31. The method as claimed in any of claims 27 to 30,
characterized in that the hybrid amylases obtained are
additionally derivatized.

20 32. The method as claimed in any of claims 27 to 31,
characterized in that the hybrid amylases are formed by
using nucleic acids which have in the corresponding
partial regions the nucleotide sequences indicated in
25 SEQ ID No. 1 and SEQ ID No. 3 or nucleotide sequences
synonymous thereto.